



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/724,608	12/02/2003	Hiroynki Kometani	380-45	3708
23117 7590 07/10/2008 NIXON & VANDERHYE, PC 901 NORTH GLEBE ROAD, 11TH FLOOR ARLINGTON, VA 22203				
EXAMINER				
SERGENT, RADON A				
ART UNIT		PAPER NUMBER		
1796				
NOTIFICATION DATE		DELIVERY MODE		
07/10/2008		ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

### Office Action Summary

**Application No.**

10/724,608

**Applicant(s)**

KOMETANI ET AL.

**Examiner**

Rabon Sergeant

**Art Unit**

1796

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28 March 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 20, 23, 24 and 26-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 20, 23, 24 and 26-28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☒ Certified copies of the priority documents have been received in Application No. 09/973,747.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_



1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

2. Claims 20, 23, 24, and 26-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hagio et al. ('104) in view of Laas et al. ('044) and Nakamura et al. ('034) and Hannah et al. ('659).

Hagio et al. disclose the use of salts of cycloamidines, such as applicants' claimed DBU, DBN, and DBD, as catalysts for polyurethane compositions. Patentees further disclose that the aforementioned salts can be produced from the reaction of the aforementioned cycloamidines with unsaturated acids, such as crotonic acid, acrylic acid, and ricinoleic acid. See abstract; column 2; and column 3, lines 14-19.

3. In addition to the teachings of Hagio et al, Nakamura et al. disclose at column 5, lines 1-40, especially lines 1-4, that salts of DBU were known catalysts for polyurethanes, and Laas et al. disclose at column 4, line 65 through column 5, line 13 that bicyclic amidines corresponding

to those of applicants were known catalysts for polyurethane yielding coating compositions. Though the aforementioned references fail to specifically recite the use of the catalysts within two-component isocyanate based systems, the use of salts of DBU and DBN within such systems was known at the time of invention, as evidenced by Hannah et al. at column 4, line 65 through column 5, line 27. Furthermore, since the salt forms in a one to one ratio of catalyst to acid, applicants' claimed ratio limitations are considered to be satisfied.

4. Therefore, in view of the aforementioned teachings, the position is taken that it would have been obvious to utilize salts derived from unsaturated acids and cyclic amidines, such as DBU, DBN, and DBD, in their art recognized capacity as catalysts for polyurethane and isocyanate based polymeric systems, and that it further would have been obvious to utilize the salts in virtually any type of polyurethane yielding system, including two-component systems. Lastly, the position is taken that the use of virtually any unsaturated acid to block the catalyst would have been obvious in view of the teachings of the references.

5. Applicants' response of March 28, 2008 has been considered; however, applicants' response is insufficient to overcome the prior art rejection. Firstly, despite applicants' amendments, it is not seen that applicants' claims exclude blocked isocyanates or blocked isocyanate prepolymers. Furthermore, even if blocking agents were excluded, it is not seen that such an exclusion would serve to overcome the prior art, since one would reasonably expect from the teachings of the primary and secondary references and the general state of the art that the disclosed catalysts would catalyze the reaction of virtually any polyisocyanate-polyol reactant mixture. Therefore, the position is maintained that the instant claims fail to overcome the prior art rejection for essentially the same reasons as set forth previously. Applicants'

criticisms of Hagio et al. with respect to the polyurethane system have been considered; however, it is considered that the examiner's previous remarks as well as the reliance on the secondary references have addressed these issues. Secondly, the examiner has again considered applicants' examples; however, it is not seen that applicants have provided showings commensurate in scope with the claims to rebut the *prima facie* case of obviousness. Despite applicants' arguments, applicants' claims and examples are not commensurate in scope in terms of catalyst species, acid species, quantities of reactants, quantities of catalyst, and ratios of catalyst to acid. It has been held that evidence of unexpected results, must pertain to the full extent of the subject matter being claimed. *In re Ackermann*, 170 USPQ 340; *In re Chupp*, 2 USPQ2d 1437; *In re Murch*, 175 USPQ 89. Accordingly, to overcome a *prima facie* case of obviousness, the claims must be commensurate in scope with any showing of unexpected results. *In re Greenfield*, 197 USPQ 227. Furthermore, it has been held that a limited showing of criticality is insufficient to support a broadly claimed range. *In re Lemin*, 161 USPQ 288; *In re Kulling*, 14 USPQ2d 1056. It is not seen that applicants' response has addressed this issue. Furthermore, to the extent that the examples and claims are commensurate in scope, it remains unclear that applicants' results are in fact unexpected. Firstly, since p-toluene sulfonic acid was a known reaction inhibitor at the time of invention, as evidenced by Oertel at pages 96 and 97, one would expect that the use of such a component would retard reactivity and prevent viscosity increase. Accordingly, it is not unexpected that other catalyst systems would display more rapid reaction profiles. Secondly, it is unclear that the comparative examples based on the metal catalysts are relevant, since these examples are not representative of the closest available art. Lastly, despite applicants' arguments, with respect to the examples pertaining to the use of

formic acid and ethylhexanoic acid, it is unclear that these results when compared to the results of the instant invention clearly indicate that the results of the examples of the invention are unexpected. It appears that each of these argued examples, both those of the invention and not, display to differing degrees a latent catalytic effect that would be expected of these catalytic systems. The position is taken that finding those combinations of acid and catalyst within the prior art that yield an optimal characteristic amounts only to the optimization of a result effective variable. In other words, one of ordinary skill in the art, in the course of routine experimentation, would have been able to select suitable acid blocked catalysts yielding optimum results, in terms of such properties as pot-life and viscosity increase. With this in mind, it is unclear how applicants' results are unexpected. With respect to Comparative Example 3, applicants have stated that despite a short pot life, the viscosity increase was slow. This argument is not understood, since this comparative example appears to display a rapid viscosity increase. In summation, the position is maintained that the evidence of obviousness outweighs the evidence of non-obviousness.

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

Art Unit: 1796

however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication should be directed to R. Sergent at telephone number (571) 272-1079.

/Rabon Sergent/  
Primary Examiner, Art Unit 1796

R. Sergent  
July 6, 2008